

THE
AMERICAN JOURNAL OF PHARMACY.

OCTOBER, 1871.

THE NINETEENTH ANNUAL MEETING OF THE AMERICAN
PHARMACEUTICAL ASSOCIATION.

The Association convened at Polytechnic Hall in the city of St. Louis, Mo., on the afternoon of Tuesday, September 12th, at 3 o'clock, and adjourned again on Friday, Sept. 15th, after having held six sessions.

First Session—Tuesday Afternoon.

The Permanent Secretary, Professor John M. Maisch, called the meeting to order, stating that in the absence of all the elected presiding officers the appointment of a President *pro tem.* became necessary. The President and two Vice-presidents were prevented from attendance at the meeting by business affairs, while the third Vice-president, Eug. L. Massot, died since the last meeting at Baltimore. Twenty-four members were present at the beginning of the session.

On motion of Prof. G. F. H. Markoe, of Boston, Prof. J. Faris Moore, of Baltimore, was elected President *pro tem.*

A Committee on Credentials was appointed, consisting of Messrs. Th. Kalb, of St. Louis, Dr. E. P. Nichols, of Newark, N. J., and Thos. Doliber of Boston.

A letter being read by the Secretary, signed by Mr. W. W. Stoddart, accrediting Mr. Henry B. Brady, the present President of the British Pharmaceutical Conference, as the representative of that Association at this meeting, the credentials were, on motion, accepted, and Mr. Brady invited to take a seat as a member. Having been introduced to the meeting by the President, Mr. Brady expressed the fraternal feeling and sympathy of the Pharmaceutical Conference,

which was established after the example of the American Association, and referring to its increasing roll of members and the good work done by it, returned thanks for the honor conferred upon him.

Letters were read from the American Wine Company, the Mercantile Library and the Public School Library, inviting the members to visit these institutions. They were accepted with the thanks of the Association.

The Committee on Credentials handed in their report, showing that the following local Associations and Colleges had elected delegates to represent them at this meeting, viz., Massachusetts College of Pharmacy, Alumni Association of the same, College of Pharmacy of the city of New York, Alumni Association of the same, New Jersey Pharmaceutical Association, Newark Pharmaceutical Association, Philadelphia College of Pharmacy, Alumni Association of the same, Maryland College of Pharmacy, Alumni Association of the same, Columbia Pharmaceutical Association of Washington, Louisville College of Pharmacy, St. Louis College of Pharmacy, Chicago College of Pharmacy, Kansas College of Pharmacy, Ontario College of Pharmacy and University of Michigan, School of Pharmacy. Each institution had accredited five delegates, except the two last named, which were represented by one delegate each.

Objections were raised to the admission of Professor A. B. Prescott, M.D., as a delegate of the University of Michigan, and the report of the Committee on Credentials was adopted, except so far as it related to the delegate from the University. An animated discussion arose, most speakers contending that the School of Pharmacy of this University could not be regarded as a College of Pharmacy in the meaning of the by-laws of the Association, although under the same by-laws the gentleman might become a candidate for membership. Finally the whole subject was referred to a Committee composed of one member from each delegation. Prof. G. F. H. Markoe, Messrs. Thos. Doliber, P. W. Bedford, J. W. Ballard, E. P. Nichols, Chas. H. Dalrymple, Prof. Wm. Procter, Prof. Edw. Parrish, J. F. Hancock, L. Dohme, Z. W. Cromwell, C. L. Diehl, Enno Sander, E. H. Sargent, Robt. J. Brown and Wm. Saunders were appointed on this Committee, and, on motion, the presiding officer was added thereto.

The roll being called, sixty-seven members and delegates answered to their names.

Mr. Wm. Wright, Jr., acting in place of the Chairman of the Executive Committee, reported the names of seventy-nine applicants for membership, who were duly elected, Messrs. Rice, of New York, and Webb, of Baltimore, acting as tellers.

The reports of the following Committees were read by their titles and laid upon the table for future action: Executive Committee with the report of the Permanent Secretary; Committee on the Drug Market; Committee on Papers and Queries; Committee on Unofficial Formulas; Committee on Adulterations and Sophistications; Committee on Legislation; Committee on the International Pharmaceutical Congress. The report of the Committee on the Progress of Pharmacy, it was stated, had not come to hand, but Mr. Wenzell, the Chairman, intended to have it present, and it was hoped that it would arrive before the final adjournment.

The Committee to nominate officers for the ensuing year was then appointed, each delegation nominating one from their number, as follows: Prof. G. F. H. Markoe, Chas. A. Tufts, Wm. Wright, Jr., J. W. Ballard, E. P. Nichols, M. D., Ch. H. Dalrymple, Prof. Wm. Procter, Jr., Wm. H. Raser, J. N. Potts, J. F. Hancock, Z. W. Cromwell, C. L. Diehl, M. W. Alexander, Prof. A. E. Ebert, E. T. Porter, Wm. Saunders. In addition thereto, the President appointed the following five gentlemen: M. F. Ash, Jackson, Miss.; Jos. H. Larwill, Bolivar, Tenn.; W. J. M. Gordon, Cincinnati; Jos. L. Lemberger, Lebanon, Pa.; and Cyrus Pyle, Brooklyn, N. Y.

The reports of the Executive Committee and of the Permanent Secretary were read and accepted; the former, after relating to business matters, contains obituary notices of twelve members who died within the past year; from the latter we copy the following, which explains itself:

The Secretary here desires to call your attention to the circumstances connected with an action of the Association at the 18th annual meeting, in regard to the disposition made of a paper written by Mr. George S. Dickey, then of San Francisco, Cal. In a letter dated Sept. 1st, 1870, received by me on the eve of starting for the meeting, Mr. Dickey wrote as follows:

"I wanted to be in Baltimore by this time but could not, and wishing, if I did go, to aid a little in the Proceedings, I pencilled a lot of notes on the U. S. Pharmacopœia, well aware that, even if any were of value, they were too late for their use; still some might be used in future. During the last few days I have hurriedly written these out, and do not know any better thing than send them to you to use. How much of these is original, how much recollection, I would

not dare to assume, original being about as dangerous an assumption as one can make. If you look at them you will find they are such notes and ideas as strike one in the prosecution of a retail pharmacy and minor manufactory, in contradistinction to those natural to a professional."

It will be seen that, by this letter, Mr. Dickey did not give any direct authority to the Secretary to present his *notes* to the Association, but under the pressure of business, it had been hastily construed as conferring such authority. On perusing the notes they were found to contain many valuable suggestions of practical importance, and the Secretary handed them, therefore, over to the Chairman of the Committee on papers and queries, to present them if deemed of sufficient value, which being done, the Association directed the return of the paper to its author. While it is painful to your Secretary to have been the cause of placing a member into an erroneous position before the Association, it is but just to Mr. Dickey that this statement should be placed on record.

Nine applications for membership were reported by the Executive Committee; the balloting resulted in their unanimous election.

On motion of Mr. Sargent, the President was requested to appoint a Committee on the exhibition and on specimens at this meeting. Messrs. C. L. Diehl, Louisville, Ky.; Geo. W. Kennedy, Pottsville, Pa.; and John F. Hancock, Baltimore, Md., were appointed.

The President's annual address was read by the Permanent Secretary, and, on motion, referred to the Business Committee, to report on the suggestions contained therein, after which the Association adjourned until Wednesday morning, at 9 o'clock.

Second Session—Wednesday Morning.

After the reading and approval of the minutes of the first session, the Committee on Credentials reported that they had received the credentials of the Mississippi State Pharmaceutical Association, accrediting Messrs. W. B. Creecy and M. F. Ash delegates to this meeting. The President remarked that the following seven new associations were represented here for the first time, and extended to them a cordial welcome: Alumni Association of the College of Pharmacy of the City of New York, Alumni Association of the Maryland College of Pharmacy, Columbia Pharmaceutical Association, Louisville College of Pharmacy, Kansas College of Pharmacy, Ontario College of Pharmacy and Mississippi State Pharmaceutical Association.

The Committee appointed to consider the admissibility of the delegate from the University of Michigan presented the following report, which, on motion, was accepted and adopted as read:

The Committee appointed at the session of the 12th inst., to consider the admissibility of the delegate from the School of Pharmacy of the University of Michigan, have duly considered the subject, and respectfully submit the following report:

The Committee on the Credentials of the Delegate from the University of Michigan, having considered the subject in its various relations, are united in the conclusion that the University is not, within the proper meaning of our Constitution and By-Laws, a College of Pharmacy, it being neither an organization controlled by pharmacists, nor an institution of learning which, by its rules and requirements, insures to its graduates the proper practical training to place them on a par with the graduates of the several colleges of pharmacy represented in this Association.

We therefore recommend that the credentials of the delegate from the University of Michigan be returned to him with a copy of this report.

(Signed by the Committee.)

The Treasurer's report was then read and referred to an Auditing Committee, consisting of Louis Dohme, Joel S. Orne and Robert Parham. The Proceedings for last year cost \$1175; the other expenses were \$1472.39, making a total of \$2647.39. After paying all the bills, a balance of \$1209.37 remains in the Treasury.

The report of the Nominating Committee was read and, after having been amended, recommended the election of the following officers for the ensuing year:

For President,

ENNO SANDER, St. Louis.

Vice-Presidents,

C. LEWIS DIEHL, Louisville, Ky.

GEORGE F. H. MARKOE, Boston, Mass.

MATTHEW F. ASH, Jackson, Miss.

Treasurer,

CHAS. A. TUFTS, Dover, N. H.

Permanent Secretary,

JOHN M. MAISCH, Philadelphia, Penn.

Executive Committee,

THOS. S. WIEGAND, Chairman, Philadelphia, Penn.

WM. H. CRAWFORD, St. Louis, Mo.

CHAS. L. JEFFERSON, Philadelphia, Penn.

CHAS. H. DALRYMPLE, Morristown, N. J.

JOHN M. MAISCH, *Perm. Secretary ex officio*, Philadelphia, Penn.

Committee on Progress of Pharmacy,

THOMAS E. JENKINS, Chairman . . .	Louisville, Ky.
HENRY W. SCHEFFER, . . .	St. Louis, Mo.
JOSEPH L. LEMBERGER, . . .	Lebanon, Penn.
JAMES R. MERCEIN, . . .	Jersey City, N. J.

And the *Local Secretary ex officio.*

Committee on Drug Market,

JOHN McKESSON, JR., Chairman, . . .	New York.
C. F. G. MEYER, . . .	St. Louis, Mo.
RICHARD M. SHOEMAKER, . . .	Philadelphia, Penn.
JOHN JACOB THOMSEN, . . .	Baltimore, Md.
GEO. W. SLOANE, . . .	Indianapolis, Indiana.

Committee on Papers and Queries,

THOMAS DOLIBER, Chairman, . . .	Boston, Mass.
WM. PROCTER, JR., . . .	Philadelphia, Penn.
JAMES W. MILL, . . .	Chicago, Ill.

Business Committee,

E. H. SARGENT, Chairman, . . .	Chicago, Ill.
JAMES T. SHINN, . . .	Philadelphia, Penn.
THEODORE KALB, . . .	St. Louis, Mo.

Committee on Unofficial Formulas,

EDWARD L. MILHAU, . . .	New York.
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Committee on Adulteration and Sophistication,

EDWARD MALLINCKRODT, Chairman, . . .	St. Louis, Mo.
JOSEPH P. REMINGTON, . . .	Philadelphia, Penn.
CHAS. B. SMITH, . . .	Newark, N. J.

Signed on behalf of the Committee,

M. F. ASH, *Chairman.*

The officers were duly elected by ballot, Messrs. Richard M. Shoemaker, Philadelphia, and J. N. Potts, Baltimore, acting as Tellers, and the Chair appointed Messrs. E. H. Sargent, Chicago, and W. J. M. Gordon, Cincinnati, a Committee to conduct, on his arrival, the President elect to the chair.

Five candidates for membership were proposed through the Business Committee, and duly elected.

The index of the last ten volumes of the Proceedings, prepared by Mr. Wiegand at the request of the Association, was laid before the meeting, and, on motion, referred to a Committee of two for exami-

nation and report at a future session. Prof. Procter and Mr. Doliber were appointed this Committee.

The President elect not having arrived yet, Mr. C. L. Diehl, the first Vice-President elect, took the chair.

Mr. John McKesson, Jr., read an abstract from the report of the Committee on the Drug Market, which was referred for publication.

Mr. Enno Sander, the President elect, was now introduced to the meeting, and before taking the chair thanked the Association for the honor conferred upon him, which he accepted as a compliment for St. Louis, and which would have undoubtedly been tendered, if he had lived to this day, to our lamented friend Eugene L. Massot.

The reports of the Committees on Papers and Queries, and on Adulteration and Sophistication, were read and referred. The Auditing Committee reported the Treasurer's accounts correct and his books in a commendable condition. A report on the photographic album was read, and, on motion, the President requested to fill the vacancy on this Committee, occasioned through Mr. Jeannot having ceased to be a member. Mr. M. W. Alexander, of St. Louis, was subsequently appointed in his place.

On motion, an invitation was extended to the faculty of the St. Louis Medical College, the Missouri Medical College and the medical profession generally, to be present at the sittings. A resolution was also passed directing the appointment of a committee of three to consider and report on the place and time of the next annual meeting. Messrs. W. J. M. Gordon, Cincinnati, M. L. M. Peixotto, New York, and Chas L. Jefferson, Philadelphia, were afterwards appointed members of this committee.

The resolutions passed by the New Jersey Pharmaceutical Association in reference to the liquor dealers license, lately required of apothecaries (see page 423, also 379 Amer. Jour. Ph.), was laid before the Association. An attempt to have the entire internal revenue law, as far as it relates to the business of the pharmacist, referred to a committee was unsuccessful, the meeting referring the subject of the liquor dealer's license by pharmacists to a committee of three, by a vote of 35 against 7; the President appointed Messrs. Brown, of Kansas, Procter, of Pennsylvania, and Dalrymple, of New Jersey.

The report on unofficinal formulas having been handed in and referred, the second session was closed by an adjournment into the exhibition room, where the Committee on the Exhibition, through its

Chairman, Mr. Diehl, called the attention of the President, officers and members to the numerous preparations and apparatus exposed, dwelling particularly upon those which are of special interest, either from their novelty or from their superiority in construction, preparation or properties.

Third Session.—Wednesday Afternoon.

The Association reassembled at 4½ o'clock, and approved the minutes of the morning session. The report of the Committee on Legislation was read, the Committee reappointed and Mr. Hubert Primm, of Missouri, added thereto.

Prof. Procter read a majority report of the Committee on the Practicability of Inviting the International Pharmaceutical Congress to meet in this country in 1876. The motion to extend such an invitation was carried, by a vote of 33 against 2. It was further resolved that, in case the invitation be not accepted, the pharmacists of foreign countries generally be invited to be present at the meeting of this Association in 1876, which is to be held in the city of Philadelphia, and that a Committee, consisting of five members, be appointed, with instructions to report at a future meeting what arrangements may be necessary for that meeting. The President, at a subsequent session, appointed this Committee as follows: Prof. Ed. Parrish, Philadelphia; S. M. Colcord, Boston; E. L. Milhau, New York; Prof. J. F. Moore, Baltimore; Prof. E. S. Wayne, Cincinnati; and George Buck, Chicago.

The Secretary was instructed to publish in the Proceedings the letter received from the North German Apothecaries' Society in answer to the address sent last year.

The following scientific papers were read: On the exports of Virginia, A.D. 1610, by Daniel Hanbury; On Pepsin and Rennet, by Clemmons Parrish; On the Pulverization of Camphor, by J. C. Lowd; On Extract of Beef, by A. E. Ebert.

A vote of thanks was passed to the retiring officers, and the appointment of a permanent Committee on the Pharmacopœia directed, to be composed of one member from each incorporated pharmaceutical body represented in this Association, said member to be nominated by each delegation; vacancies to be filled and new members added in the same manner, and the Committee is to hold a meeting annually, at each meeting of the Association.

The Association adjourned until Thursday morning at 9 o'clock.

Fourth Session.—Thursday Morning.

After the reading and approval of the minutes a motion was made to refer all essays and scientific papers to the Executive Committee without reading them; it was declared out of order, conflicting with Chapt. V, Art. VII, of the By-Laws. A number of queries were continued to the members who accepted them last year, their answers not being ready.

The following papers were read and discussed: On a Liquid Preparation of Cantharides for Blistering Purposes, by Dr. E. R. Squibb; On Suppositories, by R. B. Ferguson; On Urethral Suppositories, by J. L. Lemberger.

The following distinguished gentlemen were proposed and unanimously elected honorary members of this Association: Prof. T. Redwood, Prof. John Attfield, London; Henry B. Brady, Newcastle-on-Tyne; Léon Soubeiran, Sèvres, Augustin Délonde, and A. Chevallier, Paris; Prof. A. Dufflos, Breslau; Prof. H. Ludwig, Jena; Anton von Waldheim, Vienna.

The Committee to whom was referred the subject of the imposition of a liquor dealer's license upon apothecaries reported, and offered the following as their judgment:

The Committee to whom was referred the subject brought up in the resolutions passed by the New Jersey Pharmaceutical Association in relation to compelling apothecaries to take out a retail liquor dealer's license in order to sell medicinal liquors for legitimate medical use, report, that they have considered the subject and offer the following as their judgment:

1st. That apothecaries should not be taxed as liquor dealers if they confine the sale of liquors to the sick, and require a prescription or other written evidence of its need for medicinal use.

2d. That such sales should be limited in quantity to half a pint or a pint.

3d. That when apothecaries prefer to enter the business of selling liquors with a view to supplying general demand, they should undoubtedly be required to take a liquor dealers license.

4th. That in either case, we are of the opinion that the right of sale should not be construed to permit the drinking of liquors on the apothecary's premises unless for relief in emergencies of illness.

5th. That if these views are acceptable to the Association, a Committee be appointed to present them to the Commissioner of Internal Revenue.

After some discussion it was resolved, that the views expressed by the Committee are the views of the Association, and that a committee of three be appointed to present the same to the Commissioner of Internal Revenue and to other proper authorities. The Committee

was constituted as follows: Prof. J. Faris Moore, Maryland; Prof. E. R. Squibb, New York; Rob. J. Brown, Kansas; and by a resolution passed at the fifth session, increased to five, by the appointment of C. H. Dalrymple, New Jersey, and Matthew F. Ash, Mississippi.

The following papers were read and discussed: On Glycerin, by J. P. Remington; On Chloral, by E. R. Squibb, M.D.; On Various Oils Used for Adulterating Olive Oil, by H. N. Rittenhouse; On Pharmaceutical Apprenticeship, by S. M. Colcord; On Pharmaceutical Education, by Prof. A. B. Prescott.

The report of the Committee on the next Annual Meeting was read and laid upon the table for future action.

The following resolutions were severally discussed and passed:

Resolved, That the Executive Officers be authorized to appoint suitable persons to represent this Association at the International Congress, at St. Petersburg, in 1872.

Resolved, That the Executive Committee be directed to annually revise the list of societies, libraries and individuals to whom complimentary copies of the Proceedings shall be hereafter sent.

Also a resolution empowering the President, upon the recommendation of the Treasurer and Secretary, to remit the annual dues of members in adverse circumstances until proper reasons for such remission shall cease; and that no report of such action involving personal mention shall be made or published at any time.

Adjourned until 3 o'clock P.M.

Fifth Session.—Thursday Afternoon.

On motion of Mr. C. F. G. Meyer, the Secretary was directed to send the following cable dispatch to the North German Apothecaries Society, this day meeting at Dresden, Germany:

To W. Dankwort: The American Pharmaceutical Association sends fraternal greetings to Norddeutschen Apotheker Verein.

Mr. C. L. Diehl exhibited and explained a diagram of an apparatus employed by him for a number of years in preparing ammonia.

The following preamble and resolution was passed, and Messrs. Geo. Buck, Chicago, Aug. Breunert, Kansas City, Mo., and E. L. Milhau, New York, appointed on the Committee:

The practice adopted by the United States government of imposing fines and penalties upon druggists for the unintentional omissions in stamping medicines and perfumery having become prevalent throughout the country, and a system

pursued by the aid of detectives acting in an official or semi-official character, of virtually forcing an infringement of the law, it is

Resolved, That the subject be referred to a committee of three, to report on what action will best secure a remedy for those abuses.

The following papers were read and referred: On Commercial Subcarbonate of Iron, by P. W. Bedford; On the Morphia Strength of Tincture of Opium, by L. M. Rice; On the Precautions against Mistakes in Dispensing Poisons, by Wm. C. Bakes; On Litmus Paper, by Prof. E. R. Squibb; On the Amount of Magnesia and of Citric Acid in Commercial Citrate of Magnesia, by Prof. G. F. H. Markoe; On a Permanent Solution of Citrate of Magnesia, by E. H. Sargent; On the Stability of Liquid Pharmaceutical Preparations containing Glycerin, by W. J. M. Gordon; On African Saffron, by Prof. J. M. Maisch; On Medicated Waters, by S. A. D. Sheppard; On Aromatic Sulphuric Acid, by Thos. Doliber.

The report of the Committee on the next Annual Meeting was taken up, and amendments made to substitute for Cleveland, O., the cities of Pittsburg, Pa., Richmond, Va., Portland, Me., Leavenworth, Kan., and Saratoga, N. Y., all of which were lost, when the recommendations of the Committee as to time and place were agreed to. A motion made, at the sixth session, to reconsider the above vote, was lost.

Eleven candidates were proposed for membership and duly elected.

Mr. E. Mallinckrodt declining to act as Chairman of the Committee on Adulteration and Sophistication, the subject was referred back to the Nominating Committee.

After the exhibition, by Prof. Markoe, of a portable microscope, the Association adjourned until the next morning at 8 o'clock.

Sixth Session.—Friday Morning.

The report of the Committee on the Progress of Pharmacy was laid before the meeting, and agreeably to his request, the Chairman, Mr. Wm. T. Wenzell, was granted leave to complete the report within one month.

The following papers were read: On Wild Cherry Bark, by Jos. L. Lemberger; On Pareira Brava, by Prof. E. R. Squibb; On Sulphovinic Acid, by Prof. Prescott; On the Preservation of Herbs, by Jos. Harrop.

Through the Business Committee, a proposition to amend the by-laws, and to be acted on at the first session of the next annual meet-

ing, was laid before the Association. It proposes to abolish the standing Committees, and to elect annually a Committee of 15 members, to transact all necessary business of the Association, including the election of members, such action to be duly reported to the Association for approval.

Subsequently Prof. Parrish offered the following, which was agreed to:

Resolved, That the Business Committee be requested to consider the expediency of a Board of Direction, which shall meet simultaneously with the Association, and shall transact all its business, including the election of members, subject to the approval of the Association; the proposed Board of Direction to be composed of the officers of the Association, the Business Committee, the Committee on Papers and Queries, and the Executive Committee; the Committee to report at the first session of the next meeting of this Association.

The following report was read, and the recommendations contained therein unanimously agreed to:

The Committee on the "Index" further report, in view of the great amount of labor and time cheerfully *given* by Mr. Wiegand to the Association, in the preparation of the general Index, that some substantial acknowledgment be presented to that gentleman, with the sincere thanks of this Association for his disinterested labors, and that the Treasurer be authorized to pay Mr. Wiegand one hundred dollars.

Respectfully submitted,

WILLIAM PROCTER, JR.,
THOMAS DOLIBER.

The following papers were read and referred: On Fluid Extract of Senega, by H. N. Rittenhouse; on the same subject, by Prof. E. R. Squibb; on the Alcoholic Extracts of the U. S. Pharmacopœia, by Wm. Saunders; on the Purity of Commercial Tartar Emetic, by Jos. P. Remington; on Plants Useful as Insecticides, by Dr. S. S. Gargues; on Extract of Jalap, by Dr. E. R. Squibb.

Prof. Curtman, of the Missouri Medical College, obtained the floor, and stated that a pharmaceutical still was on exhibition at this meeting, on which, in connection with a coal-oil furnace, a patent was claimed in favor of Rob. B. Mitchell, of Chicago. The Doctor said that in 1865 he had invented a new capitol for the Procter still, and had presented the still, complete, to his students in the Missouri Medical College. He had also written an explanatory article on it, which appeared, with illustrations, in the *St. Louis Medical Record*, and in *American Journal of Pharmacy* for 1869. This article was copied

verbatim in the circular recommending "Mitchell's Still." The cost of the apparatus had been but *three* dollars, while the charge of the exhibitor was *ten* dollars.

A resolution, introduced by Prof. Parrish, "to request the Executive Committee to omit from the Proceedings such portions of the phonographic report as pertain merely to current business, and hence are not of general interest nor of scientific importance," was rejected.

The Nominating Committee proposed Mr. Justin Steer, of St. Louis, as Chairman of the Committee on Adulteration, and Mr. H. C. Gaylord, of Cleveland, as Local Secretary. They also recommended that, in case Mr. Gaylord should not be able to serve, the Executive Committee be empowered to make all necessary arrangements for the next meeting. Both nominees were duly elected, and the recommendation adopted.

A communication from Mr. A. Mueller, Highland, Ill., was referred to the Executive Committee; also the following papers, which were read by their titles: On Syrups by Cold Percolation, by L. Orynski; Pharmaceutical Notes, by Geo. C. Close; Artificial Mineral Waters, by A. Th. Moith; The Drug Business, its Relation to Medication and Pharmacy, by D. C. Robbins; Note on Rhubarb, and Note on Bicarbonate of Soda, by Prof. E. R. Squibb.

The delegations of the incorporated Colleges of Pharmacy appointed the following members on the Committee of the Pharmacopœia: G. F. H. Markoe, P. W. Bedford, A. B. Taylor, J. F. Moore, A. E. Ebert, and M. W. Alexander.

Five gentlemen were proposed for membership, and elected.

Resolutions of thanks were passed to the Public School Board of St. Louis for the use of the hall, to the resident members and the pharmacists and druggists of St. Louis for their hospitality, to the Local Secretary and the various local Committees, and to the Press of St. Louis, Mo.

The Committee on Specimens obtained leave to finish their report within one month, and were empowered to furnish correct copies of the report to journals for publication in advance of the publication of the Proceedings.

After the reading and approval of the minutes the Association adjourned, to meet again in the city of Cleveland, Ohio, on the first Tuesday of September, 1872, at 3 o'clock P. M.

NOTES ON CHLORAL.

BY ROB. F. FAIRTHORNE.

Hydrate of chloral having become so popular as a remedy lately, I thought that a description of its physical characteristics and its behavior when brought in contact with other substances might prove interesting.

As found in the shops of Philadelphia it appears in three different conditions. That of German manufacture in compressed, flattened masses of various sizes, which have (when freshly broken) a shining fracture, the facets of the crystals of which they are composed, glistening, and giving to them considerable resemblance to pieces of spermaceti. Another form it is found in, is in tabular crystals having a rhomboidal construction. The American hydrate, however, appears generally to consist of loose acicular crystals, which, when recently prepared, are almost transparent, but which after a while sometimes become opaque; their solubility in water being much reduced after this alteration has occurred. May not this be due to the same cause that produces a change in anhydrous chloral, which is occasionally converted into a hard opaque insoluble substance? Its odor is at the same time altered to some extent, becoming more pungent and irritating to the nostrils. I think that probably the hydrate or its vapor becomes partially dehydrated. It may possibly be produced by the action of light, as the vapor of alcohol, if exposed to sunlight in the presence of chloral, explodes. Chloroform is also affected by long exposure to light and air, chlorine and hydrochloric acid being developed.

When a little of this substance is placed on the glass slide of a microscope and melted by the application of heat, upon cooling it will be found that crystals have been formed. These, when magnified, present a very beautiful appearance, and will be observed to have assumed two distinct forms; one portion appearing as rhomboidal plates and the other (by far the greater part) as transparent acicular crystals, arranged in tufts of radiating prisms, the terminations of which are divided into feathery lines.

Anhydrous chloral has nearly the same specific gravity as chloroform, being 1.500, that of chloroform 1.495. It has a strong affinity for water, with which it combines, forming the crystalline substance just described. It unites also with alcohol a compound resulting that resembles the hydrate in appearance.

Chloral is formed by passing dry chlorine through alcohol, until fumes of muriatic acid are no longer given off, and the spirit has assumed a yellow color. This liquid is heated until it boils. It is then mixed with three times its bulk of sulphuric acid and finally redistilled over quick-lime.

Its formation seems to depend upon the affinity that chlorine has for hydrogen, the former gas taking it from alcohol and being disengaged during the process as hydrochloric acid. Alcohol is composed of $C_4H_6O_2$; by abstraction of two equivalents of hydrogen (which takes place at the beginning of the process) it becomes aldehyde $C_4H_4O_2$. As the chlorine continues to pass it takes with it three more equivalents of hydrogen, leaving, however, three of chlorine in their place; the aldehyde, therefore, is decomposed, and $C_4Cl_3HO_2$ remains, which is chloral.

Pure hydrate of chloral, according to Dr. Rieckher, does not take fire when heated in a spoon over a spirit lamp, but evaporates without residue, [the alcoholate when similarly treated inflames]. Nitric acid sp. gr. 1.20, either cold or hot, should not produce any reaction with it. I find that its aqueous solution produces a dense precipitate when mixed with solution of subacetate of lead.

The hydrate is readily dissolved by alcohol, ether, oil of turpentine, benzole, bisulphide of carbon and the fixed oils. The solution in the last named article might prove of value to the physician as a topical application, perhaps available in neuralgic or gouty affections.

When equal parts of camphor (in small pieces) and hydrate of chloral in crystals are shaken together in a vial and allowed to stand, they become fluid, forming a clear solution. This might also be of use as an external remedy.

When hydrate of chloral and sulphuric acid are mixed, a great reduction of temperature takes place.

Both pure chloral and its aqueous solution dissolve morphia freely.

Quinia is soluble, to a considerable extent, in a strong solution of the hydrate, six grains readily dissolving in one and a half fluid-drachms.

Cinchonia, strychnia, veratria, aconitia, atropia, are also soluble in the same menstruum.

From this it appears to be a general solvent for the alkaloids, and perhaps their solutions might be used with advantage for making ointments, or for mixing with oils for liniments, &c.

The solution of quinine just mentioned is somewhat fluorescent, but not quite as much so as that of the sulphate.

When chloral and glycerin are mixed a crystalline substance is formed in a few hours.

Chloral is a good solvent for camphor or for crystallized carbolic acid, which it deprives of odor to a great extent and renders it quite soluble in water.

When the latter solution is added to sulphuric acid a pink-colored solid is produced, which is probably a compound of sulpho-carbolic acid and chloral.

When benzoic acid is added to chloral and slightly heated it dissolves, and when cold the mixture solidifies into beautiful radiating crystals.

When hydrate of chloral is added to a strong solution of the bichromate of potassa and heated, after the addition of a few drops of nitric acid, a blue color is gradually developed. If liquid ammonia is afterwards added in large excess it assumes a currant-red color. Chloroform, treated in the same manner, produces a deep orange, retaining this even after the addition of ammonia.

If caustic soda is added to the mixture of chromic acid and chloral a bright green color is produced. With solution of potassa in considerable quantity, a blue color occurs.

When alcohol is mixed with solution of bichromate of potassa and nitric acid and heated, after caustic soda is added in excess, a green color is produced which quickly changes to brown.

I have placed these reactions together so as to compare them with one another, thinking that they might possibly lead to the discovery of a test for chloral.

NOTE ON CHLORAL HYDRATE.

By C. J. RADEMAKER, M. D.

Receiving several samples of hydrate of chloral from different sources, and noticing considerable difference in their physical appearance, I was induced to make a chemical examination of several different samples.

The first sample was manufactured by Messrs. De Haen & Co., Hanover, Germany. This sample was moist and had the appearance of acetate of potash when deliquescent. Upon opening a bottle of this

sample a large amount of white fumes arose; bringing a piece of moistened blue litmus paper near the fumes, the paper was reddened; bringing a rod dipped in aqua ammoniæ near the fumes, they became more white and dense. Dissolving part of this sample of chloral hydrate in distilled water and treating it with a solution of nitrate of silver a white precipitate was produced, all of which showed the presence of H Cl. The solution of chloral hydrate was then heated with iodine and carbonate of potash, but there was no iodoform produced, showing the absence of alcohol.

Heated in a platina spoon it was entirely volatilized.

This sample of chloral hydrate was soluble in alcohol, ether, chloroform, bisulphide of carbon, and turpentine. When treated with turpentine, it at first left a yellow oily looking sediment, but it was gradually dissolved. When treated with caustic potash, there was so much heat evolved that the liquid began to boil, the liquid turning to a lemon yellow color. Sulphide of ammonium added to a solution of chloral hydrate, produced at first a yellow color, which gradually became red, and then deposited a dirty yellow precipitate, the supernatant liquid remaining black.

If free ammonia was added to a solution of chloral hydrate and then treated with sulphide of ammonium, the following changes occurred: first a yellow color, which gradually became viscid and black, without depositing a precipitate.

The second sample was manufactured by Schering.

This sample was crystalline. Upon opening a bottle of this sample white fumes arose, but not in such large quantities as in De Haen's; with litmus they had an acid reaction, and nitrate of silver produced a white precipitate in a solution of the crystals. The reactions with ammonia and sulphide ammonium were the same as with De Haen's. The solution heated with carbonate of potash and iodine produced no iodoform. When treated with caustic potash there was not so much heat evolved as in De Haen's, and the liquid remained colorless. The crystals were also soluble in alcohol, ether, chloroform, turpentine and bisulphide of carbon without residue.

Sample 3d.—Liebreich's,—Upon opening a bottle of this sample no fumes arose; the solution of the crystals was perfectly neutral to test paper, and produced no precipitate with nitrate of silver.

The other reactions were the same as in the two preceding samples.

The amount of chloroform produced by decomposing the three different samples of chloral hydrate by means of caustic alkali, was as follows :

100 grs. of Liebreich's produced 60 grs. chloroform.

" " Schering's " 60 " "

" " De Haen's " 50 " "

It will be seen that sulphide of ammonium reacts the same with chloral hydrate which has been decomposed, as with a pure article, consequently cannot be a test for the purity of chloral hydrate. I may remark here that I have noticed that if chloral hydrate becomes slightly acid, that decomposition goes on very rapidly afterward.

Louisville, Sept. 15th, 1871.

SOAP LINIMENT U. S. P.

By J. C. WHARTON.

Although this preparation is not to be ranked among the difficult ones of the pharmacopœia, yet a simpler and more expeditious manipulation is quite possible. The officinal process is not the most direct, and as it requires the heat of a water-bath, it presents at least two other undesirable features. One is the evaporation of the alcohol, and the other is the danger of fire from its inflammable vapor in careless hands. There is no necessity for fire to be used at all, and, in fact, it is but a slow method of arriving at a result which a little mechanical effort will reach in much less time, besides yielding a more satisfactory product. What is meant by the mechanical effort is simply to pound the soap in a mortar, gradually adding the water first, then the alcohol, &c., as given in the formula below. By the first step in the process a very soft mass is formed, just as would be the case if in making soap pills a little too much water should be added. The succeeding steps consist in dissolving the soap, camphor and oil of rosemary in the alcohol—an easy process, as will be discovered on trial. In beating the soap and water together it is best not to mix them immediately, as it would then be difficult to get the pestle upon the lumps of wet soap; but if the mortar is dry, and the soap is introduced dry, either in a mass, lumps or shavings, it may be easily beaten, and if it is well pounded in this condition, it is rendered so plastic that the water may then be readily incorporated, and the whole preparation completed in a short while. I think it no trouble to commence and

finish the amount prescribed in the pharmacopocia within an hour, which, considering the time occupied in filtering, is not longer than many extemporaneous prescriptions require.

The following method is therefore offered in place of the present one of the U. S. P.

Take of Soap, in pieces, four troyounces.
Camphor, two troyounces.
Oil of Rosemary, half a fluidounce.
Water, four fluidounces.
Alcohol, two pints.

Beat the soap in a dry mortar until the lumps have disappeared; then add by degrees the water and triturate; when well mixed add the alcohol gradually, afterwards the camphor and oil of rosemary, rubbing with the pestle till all are dissolved, and filter through paper.

Nashville, August, 21st, 1871.

SYRUP OF SANTONATE OF SODA.

By J. DONDE.

A good vermifuge syrup is prepared by the following formula:

Santonate of Soda, 30 grains,
Distilled water, 1 ounce,
Syrup, 18 fluidounces.

Boil the syrup till it is concentrated to 32° Bmè. Remove from the fire, let it cool a few minutes, then add the salt dissolved in the water.

You obtain 18 fluidounces of a transparent syrup, without a bitter taste, of 35° when cold. Each fluidounce contains one grain of santonine. I have been preparing this syrup, for nine years, in the drug store of Mr. Font.

Santonate of Soda.

Santoninic Acid, in fine powder, 2 ounces.
Caustic Soda Lye, pure, 4 fluidounces.
Distilled Water, 12 fluidounces.

Put all in a flask, and heat in a sand-bath, or over a stove, to 70° or 80°, until the solution of the santonine is complete, which usually requires about half an hour; then remove from the fire, and when cold it is conveniently evaporated. In cooling, prismatic crystals with an oblique base are obtained, containing 54 per ct. of santonine.

When the solution is evaporated until a strong pellicle is formed, on cooling it is converted into a mass of acicular crystals of a pearly aspect, which contain 60 per ct. of santonine.

The santonate of soda is soluble in $1\frac{1}{4}$ its weight of water (20° C.), and has a slightly bitter taste.

Merida, August 14, 1871.

HISTORICAL NOTES ON THE *RADIX GALANGÆ* OF PHARMACY.

BY DANIEL HANBURY, ESQ., F.R.S. and F.L.S.*

In discovering and describing the plant which yields the *Radix Galangæ minoris* of pharmacy, Dr. Hance has added an interesting chapter to the history of a substance which for many centuries has been an object of trade between Europe and the East. Galangal does not, indeed, possess properties which can claim for it the rank of an important medicine, being simply a pungent aromatic of the nature of ginger; but it has so long held a place in the pharmacopœias of Europe, and enters into so many ancient receipts, that I need hardly apologize for offering to the Linnean Society a few notes on its pharmacological history.

Galangal was apparently unknown to the ancient Greeks and Romans; at least no mention of it can be found in the classical authors. Its introduction into Europe was due to the Arabians, in whose writings it is noticed at a very early period.

Thus Ibn Khurddbah, an Arab geographer who served under the Khalif Mutammid, A.D. 869–885, has left some information respecting China, after which he speaks of the country of Sila, which exports . . . musk, aloes [*i. e.* aloes-wood], camphor, . . . porcelain, satin, cinnamon [cassia], and *galangal*.†

The celebrated geographer Edrisi, who wrote A.D. 1154, observes of Aden, that it is the port for Scinde, India and China, from which last country are brought musk, aloes-wood, pepper, cardamoms, cin-

* Reprint from the Linnean Society's Journal, xijj, communicated by the author.

† "Le Livre des Routes et des Provinces, par Ibn Khordadbeh, traduit et annoté par C. Barbier de Meynard," Journ. Asiatique, sér. vi. tome v. (1865), p. 294.

namom, *galangal*, mace, myrobalans, camphor, nutmegs, cloves and cubebs.*

The Arabian physicians, from Rhazes and Alkindi, in the tenth and eleventh centuries downwards, make frequent reference to *galangal* as an ingredient of the complicated medicines then in use.

Among the later Greeks I cannot find any mention made of this drug prior to Myrepsus, who probably resided as physician at the court of the Greek Emperors at Nicæa in the thirteenth century; though several authors declare it is referred to much earlier. It is constantly named by Actuarius, who may have been contemporary with Myrepsus.

In a work published some years ago in Paris, entitled "*Assises de Jérusalem, ou Recueil des Ouvrages de Jurisprudence composés pendant le xiii^e siècle dans les Royaumes de Jérusalem et de Chypre*,"† there is a remarkable list of commodities liable to duty during the twelfth century at the port of Acon in Syria (the modern Akka), at that period a great emporium of Mediterranean trade, in which many Indian spices and drugs, including *galangal*, are enumerated.

We find *galangal* also noticed, together with ginger and zedoary, as productions of India imported into Palestine, by Jaques de Vitri, Bishop of Acon in the early part of the thirteenth century;‡ and in the "*Romance of Godefroi de Bouillon*," a poem written in the twelfth century, it is named as one of the rarities of the East, which the Crusaders were deluded into believing would be found in plenty in the Holy Land.§

Marco Polo, in his travels in Asia in the thirteenth century, observed *galangal* to be produced in Southern China (Province of Foo-chow?), as well as in Java.||

About this period it was also known in Western Europe. St. Hildegard, Abbess of Bingen, who died in A.D. 1179, names it as *galgan*, and comments upon its medicinal virtues.¶

* "*Géographie d'Edrisi*," traduite par A. Jaubert, Paris, 1836-40, 4to, tome i p. 51.

† Paris, 1841-43, fol. tome ii. chap. 142.

‡ Vitriaco (Jac. de), "*Historia Orientalis et Occidentalis*," 1597, 8vo, p. 172.

§ "*Bibliothèque de l'Ecole des Chartes*," tome ii. (1840-41), p. 437.

|| "*Le Livre de Marco Polo*" (éd. Pauthier: Paris, 1865), pp. 522, 561.

¶ "*S. Hildegardis Abbatissæ Opera omnia*," accurante J. P. Migne, Paris, 1855, p. 1134.

Galangal is catalogued with other spices (as ginger, cinnamon, cloves and nutmegs) in the tariff of duties levied in the port of Colibre (Collioure), in Roussillon, in A.D. 1252.*

A more interesting notice of the drug is contained in the journal of expenses of John, King of France, from July 1, 1359, to July 8, 1360, during his residence in England, preserved in the "*Comptes de l'Argenterie des Rois de France.*" Besides purchases of sugar, mace, ginger, cloves, pepper, cardamoms, calamus aromaticus, and many other drugs, we find three entries for *galangal*, namely, for $\frac{1}{2}$ lb. 18*d.*, for 2 lbs. 6*s.*, and for 1 lb. 22*d.*† As the price of gold happens to be also mentioned in one part of the account, it is easy to form an estimate of the relative value of galangal. This shows the price of 3*s.* per pound to be equivalent to about 10*s.* of our present money—not extravagant for a commodity transported from the remotest Asia to the centre of England.

In Professor J. E. Thorold Rogers' "*History of Agriculture and Prices in England,*" there are eleven entries indicating the price of galangal in England between A.D. 1264 and 1376. The highest was in 1307, when 2 lbs. of the spice purchased for the Crown were paid at the rate of 6*s.* 8*d.* The other entries indicate the price as from 1*s.* 6*d.* to 3*s.* per lb.

In the fifteenth century galangal was evidently in common use; for Saladinus, physician to one of the Princes of Tarentum, *circa* A.D. 1442–1458, reckons it among the things *necessaria et usitata*, which should be found in the shop of every *aromatarius*.‡ As might be expected, it is included in all the older pharmacopœias and antidotaria.

Garcia D'Orta, first physician to the Portuguese Viceroy of India at Goa, and a resident in India for thirty years, is, I think, the first writer to point out (1563) that there are two sorts of galangal—the

* Capmany, "*Memorias Historicas sobre la Marina, Comercio y Artes de la Ciudad de Barcelona,*" 1779, tome ii. p. 20.

† The original entries are as follows:

"Lundy VII^e jour d'octobre. Jehan Kelleshulle, espicier à St. Boutoul, pour especes prises de li pour le Roy. . . . Galingal, demie livre 18*d.* Jeudy XIII^e jour de février. . . . Galingal, 2 livres, 6*s.* Samedy XXVII^e jour de juing. . . Berthélemi Mine, espicier. . . . Galingal, une livre, 22*d.* . . ."

L. Douet D'Arcq, "*Comptes de l'Argenterie des Rois de France au XIV^e siècle.*" Paris, 1851, 8vo. pp. 218, 232, 265, 266.

‡ "*Compendium Aromatariorum,*" Bonon. 1488, fol.

one, as he says, of smaller size and more potent virtues brought from China, the other, a thicker and less aromatic rhizome, produced in Java.*

This distinction is perfectly correct. The Greater Galangal, which is termed *Radix galangæ majoris*, is yielded by *Alpinia galanga*, Willd., a plant of Java;† the lesser, called *Radix galangæ minoris* or simply *Radix galangæ*, is derived, as we now know, from the plant which Dr. Hance has described as *A. officinarum*. It is the latter drug alone that is at present found in European commerce.‡

The name *galangal*, *galanga* or *garingal*, *Galgant* in German, is derived from the Arabic *khanlanjan*; whether that word may be a corruption of the Chinese name *liang-kiang*, signifying *mild ginger*, I must leave it to others to decide.

Let me say a few words regarding the uses of galangal. As a medicine, the manifold virtues formerly ascribed to it must be ignored; the drug is an aromatic stimulant, and might take the place of ginger, as indeed it does in some countries. That it is still in use in Europe is evident from the exports from China and from the considerable parcels offered in the public drug sales of London.§ The chief consumption, however, is not in England, but in Russia.|| It is there used for a variety of purposes, as for flavoring the liquor called *nastoiika*. The drug is also employed by brewers, and to impart a pungent flavor to vinegar, a use noticed by Pomet¶ so long

* "Colloquios dos Simples e drogas he cousas medicinais da India," Goa, 1563, Colloquio 24.

† *Maranta Galanga*, Linn., Sp. Pl. and Swartz, Obs. Bot.

‡ Moodeen Sheriff, in his learned "Supplement to the Pharmacopœia of India," (Madras, 1869), states that in the bazars of Hyderabad and in some other parts of India the rhizome of *Alpinia calcarata*, Rosc., is sold as a sort of galangal; and that a species of *Alpinia* growing in gardens about Madras, which, conceiving it to be new to science, he has described and named as *A. Khulinjan*, has a rhizome much resembling the Lesser Galangal of China.

§ Three hundred bags, each 112 lbs., imported from Whampoa, were offered for sale by Messrs. Lewis and Peat, 27 Oct., 1870. The quantity was not thought remarkable; and I am assured that a single buyer will sometimes purchase such a lot at one time for shipment to the continent.

|| Professor Regel, of St. Petersburg, and A. v. Bunge, of Dorpat, and Mr. Justus Eck, of London, have all obligingly supplied me with information as to the use of galangal in Russia. My thanks are also due to my friend, Professor Flückiger, who, on this as on other occasions, has kindly offered me valuable suggestions.

¶ "Histoire des Drogues," Paris, 1694, fol., part 1, p. 64.

ago as 1694. As a popular medicine and spice, it is much sold in Livonia, Esthonia, and in Central Russia; and by the Tartars it is taken with tea. It is also in requisition in Russia as a cattle-medicine; and all over Europe there is a small consumption of it in regular medicine.

There is doubtless some quantity of galangal of both sorts used in India. By a "Report on the External Commerce of the Presidency of Bombay for the year 1865-66," I find that there was imported into the port of Bombay of "*Gallingall*" from China 520 cwt., from Penang, Singapore, the Straits of Malacca and Siam 70 cwt., and from ports in Malabar 834 cwt. Of the total quantity (1424 cwt.), 716 cwt. was reshipped to the Arabian and Persian Gulfs.

According to Rondot, writing in 1848, the trade in this drug is on the decline;* and the statistics which I have examined tend strongly to show that this is the fact.

The foregoing notes may be thus summarized:

1. Galangal was noticed by the Arab geographer Ibn Khurdádbah in the ninth century as a production of the region which exports musk, camphor and aloes-wood.

2. It was used by the Arabians and later Greek physicians, and was known in northern Europe in the twelfth century.

3. It was imported during the thirteenth century with other eastern spices by way of Aden, the Red Sea and Egypt, to Akka, in Syria, whence it was carried to other ports of the Mediterranean.

4. Two forms of the drug were noticed by Garcia d'Orta in 1563; these are still found in commerce, and are derived respectively from *Alpinia Galanga*, Willd., and *A. officinarum*, Hance.

5. Galangal is still used throughout Europe, but is consumed most largely in Russia. It is also used in India, and is shipped to ports in the Persian Gulf and Red Sea.

BRIEF REMARKS ON THE BARK OF RHAMNUS FRANGULA, OR BLACK ALDER TREE.

By H. C. BAILDON, Edinburgh.

Some time since a gentleman from Holland applied to me to prepare for him a decoction of the *Rhamnus Frangula* bark. The bark he brought with him, having previously found that he could not obtain

* "Commerce d'Exportation de la Chine," Paris, 1848, p. 98.

it in this country. He spoke most enthusiastically of its good properties as a gentle cathartic, which had proved very beneficial to himself, and which was much used and esteemed by the medical profession in Holland. He kindly offered to procure for me a small quantity of the bark. To my surprise, I shortly afterwards received a bale containing nearly a quarter of a cwt., accompanied by the following letter. He writes, "I hope you will find it giving as much benefit generally as I have derived from it personally. The preparation of my Dutch physician was 3 or 4 drams of bark to a pint of water boiled down to half a pint. Two or three tablespoonfuls occasionally night and morning, as an aperient. Than this nothing can be more simple or less injurious, and it does not require increase of dose, but the contrary."

I am aware that this drug is not altogether unknown in this country, though I believe rarely or never used. In the 2d volume of the first series of the *Pharmaceutical Journal*, page 721, I find a letter signed George Mennie, Plymouth, speaking very favorably of it as a purgative and alterative, and again in the 9th volume, page 537, there is an analysis by M. Benswanger.

I have repeatedly taken the decoction myself, and find the taste not unpleasant, with a slight prussic acid flavor, of which the analysis shows traces. It operates gently as an aperient, without griping, in doses of 2 or 3 tablespoonfuls. It appears to me to possess properties which should in many cases render it a valuable substitute for senna,—which is often found drastic in its effects, and is nauseous to take,—and to be especially suitable for children.

In Holland it must be very plentiful, as it was charged me only at the rate of about 10*d.* per lb., including cost of carriage.—*Pharm. Journ., Lond., Aug. 19, 1871.*

SAPONACEOUS PLANTS.

By P. L. SIMMONDS.

Many plants in different countries furnish useful substances for soap to the natives, where there are no conveniences or materials for manufacturing the ordinary soap of commerce. Prominent among these are the soapworts, tropical plants belonging to the genus *Sapindus*. The Hindoos use the pulp of the fruit of *Sapindus detergens* for washing linen. Several of the species are used for the same purpose

instead of soap, owing to the presence of the vegetable principle called saponine. The root and bark also of some species are said to be saponaceous. The capsule of *Sapindus emarginatus* has a detergent quality when bruised, forming suds if agitated in hot water. The natives of India use this as a soap for washing the hair, silk, etc. The berries of *Sapindus laurifolius*, another Indian species, are also saponaceous. The name of the genus *Sapindus* is merely altered from *Sapo-indicus*, Indian soap, the aril which surrounds the seed of *S. Saponaria* being used as soap in South America. According to Browne, the seed-vessels are very acrid; they lather freely in water, and will cleanse more linen than thirty times their weight of soap, but in time they corrode or burn the linen. This assertion, however, requires confirmation. Humboldt tells us that, proceeding along the river Carenicuar, in the Gulf of Cariaco, he saw the native Indian women washing their linen with the fruit of this tree, there called the *Para para*. Saponaceous berries are also used in Java for washing. The fresh bark of the root *Monnina polystachia* (R. and P.), called *Yal-hoi*, pounded and moulded into balls, is used by the Peruvians in place of soap.

Saponine exists in many other seeds and roots—in the legumes of *Acacia concinna*, in which a considerable trade is carried on in some parts of India, and in the root of *Vaccaria vulgaris*, *Agrostemma Githago*, and *Anagallis arvensis*. It also occurs in various species of *Dianthus* and *Lychnis*, and in the bark of *Silene inflata*. *Gypsophila struthium* is used by the Spaniards for scouring instead of soap. The bruised leaves of *Saponaria officinalis*, a native of England, forms a lather which much resembles that of soap, and is similarly efficacious in removing grease spots. The bark of *Quillaia saponaria* of Central America answers the same purpose, and is used as a detergent by wool dyers. It has been imported largely into France, Belgium, etc., and sold in the shops as a cheap substitute for soap. The fruit of the *Bromelia Pinguin* has also been found useful as a soap substitute.

A vegetable soap was prepared some years ago in Jamaica from the leaves of the American aloe (*Agave Americana*), which was found as detergent as Castile soap for washing linen, and had the superior quality of mixing and forming a lather with salt water as well as fresh. Dr. Robinson, the naturalist, thus describes the process he adopted in 1767, and for which he was awarded a grant by the House of Assembly of Jamaica: The lower leaves of the Curaca or Coratoe (*Agave*

Karatu), were pressed between heavy rollers to express the juice, which, after being strained through a hair cloth, was merely inspissated by the action of the sun, or a slow fire, and cast into balls or cakes. The only precaution deemed necessary was to prevent the mixture of any unctuous materials, which destroyed the efficacy of the soap. Another vegetable soap, which has been found excellent for washing silk, etc., may be thus obtained: To one part of the cake add one and a half part of the before-named *Agave Karatu*, macerated in one part of boiling water for twenty-four hours, and with the extract from this decoction mix 4 per cent. of rosin.

In Peru, the leaves of the *Maguey Agave* are used instead of soap; the clothes are wetted, and then beaten with a leaf that has been crushed; a thick white froth is produced, and after rinsing the clothes are quite clean. The pulpy matter contained in the hard kernel of a tree, called locally *Del Jaboncillo*, is also used there for the same purpose. On being mixed with water, it produces a white froth. In Brazil, soap is made from the ashes of the bassena or broom plant (*Sida lanceolata*), which abounds with alkali. There are also some barks and pods of native plants used for soaps in China. The soap plant (*Amole*) of California, *Phalangium pomeridianum*, is stated by Mr. Edwin Bryant to be exceedingly useful. The bulbous root, which is the saponaceous portion, resembles the onion, but possesses the quality of cleansing linen equal to any olive soap manufactured.

From a paper read before the Boston Society of Natural History, it appears that this soap plant grows all over California. The leaves make their appearance about the middle of November, or about six weeks after the rainy season has fairly set in; the plants never grow more than a foot high, and the leaves and stalk drop entirely off in May, though the bulbs remain in the ground all the summer without decaying. It is used to wash with in all parts of the country, and by those who know its virtues it is preferred to the best of soap. The method of using it is merely to strip off the husk, dip the clothes into the water, and rub the bulb on them. It makes a thick lather, and smells not unlike brown soap.

At St. Nicholas, one of the Cape Verde Islands, they make a soap from the oil of *Jatropha Curcas* seeds, and the ashes of the burnt papaw-tree leaf. The oil and ashes are mixed in an iron pot heated over a fire, and stirred until properly blended. When cool it is rolled up into balls about the size of a six-pound shot, looking much like our

mottled soap, and producing a very good lather.—*Druggists' Circular*, Aug., 1871, from *The Journal of Applied Science*.

SUNFLOWER-SEED OIL.

The highly ornamental and extensive genus of plants to which this plant belongs derives its scientific name, *helianthus*, from *helios*, sun, and *anthos*, a flower, on account of the brilliant color of the flower, and from the erroneous idea, propagated by poets and others, that the flowers always turned towards the sun—hence, also, the French name *tournesol*. It appears to possess far more profitable qualities than have been hitherto supposed, and may be cultivated with advantage and applied to many useful purposes. An acre of land will contain 25,000 sunflower plants, at twelve inches distance from each other.

The great variety of valuable properties belonging to the sunflower seed have been much neglected. No plant produces such fine honey and wax, and when the flower is in blossom, bees abound in it. The produce will be according to the nature of the soil and mode of cultivation; but the average has been found to be fifty bushels of the seed per acre, which will yield fifty gallons of oil. The oil is excellent, when refined, for table use, for burning in lamps, for soap making, and for painting—especially for mixing green and blue paints. The marc, or refuse of the seeds of the above quantity after the oil has been expressed, made into cakes, will produce 1500 lbs., and the stalks, when burnt for alkali, will give 10 per cent. of potash. The green leaves of the sunflower, when dried and burnt to powder, mixed with bran, make excellent fodder for milch cows. It makes a beautiful soap, particularly softening to the hands and face, and is pleasant to shave with. The cake is superior to linseed for fattening cattle. Sheeps, pigs, pigeons, rabbits, poultry of all sorts, etc., will fatten rapidly upon it, and prefer the seed to any other; it causes pheasants in particular to have a much more glossy plumage and to be plumper in the body. It also increases the quantity of eggs from poultry fed with it. The seed, shelled, makes when ground very fine sweet flour for bread, particularly tea-cakes.

The sunflower will grow in any corner that may be vacant, and will give a farm a most agreeable garden-like appearance. It should be planted about six inches apart, and about one inch deep, and when

about one foot high should be earthed up; it then will require no further attention. Every single seed will produce 1000 or more; the main head generally produces 800 to 1000 seeds, and there are usually four collaterals, producing 50 to 60 seeds each. But it is not the seed only that is valuable, for by treating the stalk exactly as flax, it will produce a fibre as fine as silk, and that in large quantities. Now that rags become so valuable, arising from the unprecedented demand for paper, the stalk might be made useful for that purpose.

On some grounds two crops may be growing at the same time. When the farmer has given his early potatoes a last hoeing, he may plant this seed twelve inches apart in the ridges. The Chinese have it by thousands of tons and worship it. There can be no doubt that many of their silk goods have a large portion of the sunflower fibre in them. According to Boussingault, some experiments made by M. Gauzac, of Dagny, gave the produce per acre of seed, at 15 cwt. 3 qr. 14 lb.; the oil per acre 275 lbs., being 15 per cent. and the cake 80 per cent. Next to poppy-seed oil, sunflower oil burns the longest of any in equal quantities. The seeds vary in color, being either white, grey, striped or black. From them is expressed a palatable clear and flavorless oil, the demand for which in Russia is very great. It is exported from St. Petersburg at about 10s. 6d. the cwt., and is said to be extensively used, like cotton-seed oil, after purifying, for adulterating olive or salad oil.

In Russia a considerable quantity is grown for oil pressing. The plant is largely cultivated in Kiels and Podolia, eastward on the black soil lands. The stalks are used for fuel. The manufacture of the oil, which was formerly confined to the Government of Voroneje, has recently been carried on in that of Saratov, and in the town of that name, there were, in 1867, at least thirty oil-presses. Mr. Alexander Knobloch, of Sarepta, has one worked by steam-power. The seed is supplied by the peasants of the neighborhood. The production in Russia in 1867 (including a few other miscellaneous oil seeds) was officially stated at 335,000 cwt. At Voroneje 6000 to 8000 poods (of 36 lbs.) of seeds are produced. In Russia the seed sells at about 40 copecks the pood, or 2 roubles 60 copecks the chetwert; the oil at 3½ to 4 roubles the pood.—*Pharm. Journ. and Trans.*, August 5, 1871, from *Journal of Applied Science*.

THE PREPARATION OF THEINE.

BY CHAS. FREDRICK.

In the *Medical Times and Gazette* Mr. Lewis Thompson publishes an article entitled, "Use of Theine as a Therapeutical Agent," reported in the *Druggists' Circular* for June, page 96, in which he described a convenient method for the preparation of this agent; but the writer found the hollow and movable axis of the rotary coffee-roaster rather awkward, besides its length of three feet much too short to insure the deposition of all the crystallizable particles of the vapor given out by two pounds of coffee. The complete utilization of that amount of vapor would require a tube (being one inch in diameter) nine to twelve feet in length, and even longer. To obviate these disadvantages, recourse was had to a little stationary arrangement. It consists in a Linden's patent coffee-roaster, a thin cast iron pot, whose contents may be turned over by a perforated and toothed shovel. To the cover a tube of two inches in diameter was fitted, the whole length of which is three feet, made in three sections, for convenient removal and cleaning. Put on a stove and heat the pot to between 300° and 400°, then turn in the coffee, fit on the cover and pipe, passing the free end of the latter through a card board into a gallon bottle, then raise and continue the heat for 15 or 20 minutes, during which time the crank must be turned, and the cover now and then raised to examine the color of the beans, though this is not necessary after two or three repetitions of the process, when the cover may be luted on by a cement made with a little water out of two parts of linseed meal and one part plaster of Paris; besides, with a brisk fire the operation of roasting requires but ten minutes, when the coffee will have assumed the right shade of color. During the process the tube and the bottle grow rather hot, and it is advantageous to cool them by wet rags, but it is not absolutely necessary. The aqueous portion of the vapor condenses in the bottle to the amount of two ounces, and upon removal of the cover and tube, they will be found coated with a thin film, which is washed off by eight ounces distilled water, with which the bottle is also well rinsed; then the liquid is filtered and evaporated over a water bath to two ounces; to these, two ounces of dried carbonate of potassa is added (very easily made by exsiccating 2½ ounces of salt of tartar in an iron ladle [fitted with a cover], one of three inches diameter by one inch depth is large enough, or a Hessian crucible will answer very well), the mixture set aside over night to allow

the precipitate of theine to form. If the alkaline solution is very concentrated the precipitate will collect on the surface, but on adding a little water it will subside, the supernatant liquid is then decanted, the deposit redissolved in distilled water, evaporated over a water bath to dryness, and finally crystallized from a boiling solution in alcohol, which is distilled off and allowed to evaporate.

Theine obtained in this way is sufficiently pure for medicinal use. Two pounds of Rio coffee yielded 104 grains. It seems strange that the decided therapeutic value of this agent has thus far failed to bring it into more general use by the profession.

The above arrangement is not expensive, costing two dollars and a half, and is also useful for some similar purposes, such as the preparation of *baccæ juniperi tostae*, *glandes quercus tostae*, etc., in fact for the torrefaction or incineration of many organic substances. A domestic process such as this, of almost weekly occurrence in every family, is thus turned into an interesting and profitable pharmacal operation.

To avoid repetition, the reader is referred for some further points of information on the subject, to the article above mentioned.—*The Pharmacist*, August, 1871.

CHICAGO, July, 1871.

OBSERVATIONS ON THE COLOR OF FLUORESCENT SOLUTIONS.

By HENRY MORTON, PH. D.,

President of the Stevens Institute of Technology.

As the result of a series of experiments to be presently described, I have come to the curious conclusion that all the familiar fluorescent solutions, such as the tincture of turmeric, of agaric, of chlorophyl, and the solution of nitrate of uranium, emit light of the same color by fluorescence, namely, blue identical with that developed by acid salts of quinine. This blue, however, as is well known in the case of quinine, is not of a single tint or refrangibility, but yields a continuous spectrum, in which the more refrangible rays predominate.

My attention was first drawn to the subject by observing that a specimen of mixed asphalt, which is here largely used in the preparation of pavements, yielded a light-yellow solution with alcohol, which fluoresced blue, and an orange solution with turpentine, which fluoresced green. It at once occurred to me that the green color was

simply due to the absorptive action of the colored solution, and not to the development of green rays. Examined with the spectroscope, the seemingly green fluorescence showed no increase in the green or yellow part of the spectrum, as compared with the blue fluorescence, but only an absorption of the red and violet ends. When, however, a piece of fluorescing canary glass or solid nitrate of uranium was examined, the green light was (as is well known) largely augmented. I also found that when, by filtration through animal charcoal, the solution in turpentine was reduced in color, the green tint of the fluorescence disappeared in a corresponding degree. This alone would, however, have proved nothing, as a green fluorescing matter might have been absorbed by the charcoal, but in connection with the spectroscopic result it was of interest.

I next took up for examination the tincture of turmeric. This is set down in standard works, such as those of Du Moncel and Becquerel, as fluorescing red. This solution, when concentrated, has a rich orange-red color, and the jacket of a Geissler tube being filled with it, all the light reaching the eye, from the electric discharge within, is of a deep orange or red color. If, however, the solution is simply diluted until its color is reduced to a rich yellow, the fluorescence appears green. The same result follows from filtration through bone black, with a marked increase in the amount of fluorescence visible, as the light-absorbing coloring matter is removed. By continuing the decoloration until the liquid is colorless or of a very light tint, its fluorescence is distinctly blue.

The results with the spectroscope when it was applied to this substance, were the same as with the solution of asphalt. Such also is the case with tinctures of chlorophyl, which, when fresh and green, gives apparently a green light, and, when old and brown, a gray color.

Finally, I took up the nitrate of uranium, about which such contradictory statements have been published. This salt in its solid state gives a brilliant green fluorescence, whose spectrum is figured by Becquerel, and abounds in green rays; but in solution it gives a very feeble fluorescence, far inferior to that of turmeric, and of no more green tint than would be due to its yellow color. So in fact says also the spectroscope.

From these results it would seem that the molecules of fluorescent bodies *in solution* are not capable of restricting their vibrations to

limited ranges, but move at rates corresponding with all refrangibilities, having simply an excess of the higher ones, though the same substance in the solid state may act quite differently, as in the case of nitrate of uranium, and possibly the fluorescent material in the asphalt, which may be related to the solid hydrocarbon fluorescing green, which Becquerel mentions (*La Lumière*, tome i, p. 382).

In this general connection let me mention that I have observed that while the acid salts of quinine generally are fluorescent, the chloride is not, and that hydrochloric acid will decompose the acid sulphate so as to destroy its fluorescence.

There are several other points in connection with this and the foregoing subject, which I must leave for a subsequent discussion.

July, 1871.

P. S.—Aug. 1st. I have just obtained results with turmeric, which seem to indicate that its fluorescence is due to the presence of a substance not yet observed, soluble in water, and without any color.—*Amer. Journ. of Science and Arts*, Sept., 1871.

PREPARATION OF DILUTED PHOSPHORIC ACID.

By E. B. SHUTTLEWORTH.

The officinal process of the British pharmacopœia for diluted phosphoric acid is a troublesome and dangerous one. The use of closed glass vessels, when operating on an explosive substance like phosphorus, is attended with considerable risk, not only to the apparatus, but the person and property of the operator. The apparatus is unnecessarily complicated, involving the employment of a retort and Liebig's condenser, while the advantage gained on the score of economy of acid is so trivial as to be practically unworthy of consideration.

A much better process is that of the *United States Pharmacopœia*. In this the diluted nitric acid is placed in a porcelain capsule; the phosphorus is added and the whole covered by an inverted glass funnel, of such dimensions that its rim rests on the inside of the capsule, near the surface of the liquid. A gentle heat is applied, and if necessary, the action moderated by the addition of a little distilled water, which can be readily applied without in any way disturbing the operation. After the phosphorus has disappeared, the funnel is removed, and the concentration of the acid is effected in the same vessel, by a further application of heat.

As far as the apparatus is concerned, it will readily be seen that the latter process is much more simple; the danger of explosion and fracture is almost impossible; most of the nitric acid is condensed, and trickles down the funnel into the capsule, while the manipulation is easier, and the operation can be carried to completion in the vessel in which it was commenced.

In both processes, however, the nitric acid is used in a very dilute form. According to the experience of the writer this occasions a waste of time and is attended with no advantage. The action of the dilute acid on the phosphorus is very feeble, and, in operating on larger quantities—say ten pounds of phosphorus—eight or ten days are required for the solution. The acid need not be weaker than that of sp. gr. 1.24. At this strength there is no danger of explosion, or a too rapid action. After many and cautious trials I have now no hesitation in operating on the above-named quantity of phosphorus, with a carboy of acid of the strength named, and by so doing the solution may be effected in from fifteen to twenty hours. Nothing at all approaching to an explosion has ever occurred, but the precaution is always taken to have a quantity of distilled water near at hand, so that it can be at once added if, by the concentration of the acid, the action becomes at all violent.

In driving off the excess of nitric acid, after the phosphorus has been dissolved, a considerable degree of heat will be required, and the greatest care should be taken that the acid has become quite cool, before adding the water for dilution. If this is neglected, and the water is added to the hot acid, an explosion is inevitable, owing to the rapid change of the water into the gaseous form. Indeed, it would be much less dangerous to pour water into a ladleful of melted lead.

For this, as well as all other operations in which solutions of acid or alkali are employed, the use of enamelled iron vessels must be avoided; nothing but porcelain, or at least wedgewood, should be used. In this connection the writer would protest against the use of enamelled vessels for any of the purposes of pharmacy in which an acid, or alkali proof material is required. I have never yet met with a vessel of this kind that was at all reliable, being either of a material readily acted on, or pierced with minute holes, exposing the underlying iron and, consequently, contaminating everything with that metal.—*Canadian Pharm. Journ.*, August, 1871.

EXPERIMENTS MADE FOR THE PURPOSE OF PRESERVING
RAW MEAT.

By DR. BAUDET.

Since I had obtained, by a lengthy practice, some considerable experience as regards the antiseptic and preservative properties of a substance which I term *spyrol* (carbolic acid), for being applied to the tanning, tawing, and currying operations, I felt induced to try some experiments as regards the use of that body for the preservation of meat.

First process: *By immersion in phenic water at from 5-10,000 to 1-1,000.*—On the 18th of October last year I took four wide-mouthed stoppered bottles, and placed in each 250 grms. of raw horseflesh, slightly moistened with phenicated water in the following proportions:—No. 1, solution at 4-1,000; No. 2, solution at 3-1,000; No. 3, solution at 2-1,000; No. 4, solution at 1-1,000. To the contents of every bottle I added a few small pieces of well-burnt charcoal, with the view to absorb any gaseous matter which might be evolved from the meat; after having hermetically closed the bottles, I have kept these for thirteen weeks in a room constantly heated at from 15° to 20°. On inspecting the bottles after the lapse of time just mentioned, I found that the liquid which covers the meat had in all bottles become slightly rose-red colored. The state of the meat, on examining it, was found as follows: No. 1. The meat had become somewhat blackish-colored, but was not spoiled at all. No. 2. Meat very well preserved, color light rose-red. No. 3. Meat perfectly well kept, with the natural color of fresh meat. No. 4. Meat has quite well kept; its color has greatly improved considering that raw horseflesh is naturally deep-colored. A few days after, having inspected and noted down, as described, the contents of each bottle, I have taken a portion of the meat of No. 3 bottle, and, without having it washed or drained, have fried it, and dressed as a beefsteak; on partaking of it, in company with several other parties, we found the meat excellent, having only acquired a slight taste similar to that of cured ham and bacon, but by no means disagreeable. I have kept at the same temperature as indicated above, and under the same conditions, the meat in the bottles, well-closed, and have not observed, up to the middle of February last, any other change in the meat than an external drying and shrivelling up, and deeper color, but internally the natural color remains. From the foregoing experiments, I con-

clude that phenicated water, in the proportion of from 1-1,000 to even 5-10,000, might be applied to keep raw meat fresh and sweet, without imparting to it either any perceptible smell or taste, provided the meat be kept in well-closed vessels, be they casks, tinned iron canisters, or other vessels.

Second process: *By means of vegetable charcoal coarsely broken up, and saturated with phenicated water at from 5-10,000 to 1-1,000.*—This process is applied as follows: I cover the meat with a thin woven fabric, in order to avoid its direct contact with the charcoal, which might penetrate into the fibre of the meat, which is placed next into barrels, care being taken to place therein first a layer of the phenicated charcoal, then a layer of meat, and so on, alternately, until the barrel is quite filled, and all interstices properly taken up by the charcoal. As regards the importation of raw meat, preserved by this method, from South America, I would suggest that the meat, first covered with any thinly-woven fabric, be placed in bags made of raw caoutchouc, very abundantly obtainable in the country alluded to; so that the importation of raw meat and the importation of caoutchouc might go, as it were, hand in hand. The mode of filling in alternate layers of phenicated charcoal and meat would, of course, remain the same; and there would be no difficulty of hermetically sealing up bags made of caoutchouc, either by soldering the seams together, or by placing a cap of caoutchouc over the mouth of the bag, and soldering the cap on hermetically.—*The Drug. Circular and Chem. Gaz., August, 1871, from Moniteur Scientifique.*

ON THE QUANTITATIVE ANALYSIS OF WHITE LEAD GROUND IN LINSEED OIL.

BY VICTOR BIART.

Text books on chemistry tell us very little about adulterations of paints. Take, for instance, white lead; how shall we proceed? If the druggist bought it in the state of powder, it would be relatively easy; but as it is generally sold ground in linseed oil, the case appears to be more complicated. If we refer to books, it will generally be with disappointment.

As an instance, I give what I found in a good book on chemistry, in the part of the work relating to chemical analysis, speaking of the analysis of white lead in oil, the author says: "When the white

lead is mixed with oil, it becomes more difficult to ascertain the exact nature of the adulterations, since the methods which must be adopted in order to destroy the oil, (viz.: incineration, or boiling with hydrochloric acid, and gradually adding chlorate of potassa), will alter to a greater extent the forms of combination in which the substances exist, and the analyst must content himself with merely identifying the different acids and bases; the quantities of these will, however, guide him in his conclusions as to the really important adulteration. Probably by powerful pressure in blotting paper, between hot iron plates, the oil might be so far extracted as to allow of the application of the ordinary method of testing."

But such a process would be altogether too tedious, and I would suggest the following plan: If you have a sample of white lead ground in oil, and you wish to test it, it is not necessary to make a thoroughly accurate chemical analysis of it, all you want is the detection of one or more probable impurities, and these generally are sulphate of baryta, sulphate of lead, sulphate of lime, (plaster paris), and carbonate of lime, (chalk). The sulphate of baryta is almost universally employed in adulterating white lead; in fact that is what it seems to be created for, and the manufacturer of white lead readily takes the advantage of the whiteness, the fineness, the weight, and, above all, the cheapness of sulphate of baryta; all it lacks is the opacity, commonly termed the body, for it does not cover well.

The way to proceed then, is as follows: Take a small precipitating bottle, weigh it, and introduce in it a certain quantity of the white lead ground in oil. Then add about four times the quantity of ether, shake frequently till all oil is dissolved, decant and add another small quantity of ether, shake again, decant and repeat the operation till a few drops of the ether used will not stain a sheet of white paper on evaporating. Collect all the ether used, evaporate, and the oil is left as residue; weigh it and calculate the percentage of oil in the white lead. Now warm the bottle with the dry white lead in it, so as to eliminate all the ether, then weigh it, and the difference of weight before and after digestion with ether must be equivalent to the amount of oil extracted.

To the powder obtained, add a little nitric acid diluted with three times its volume of pure water. White lead being a basic carbonate of lead, its carbonic acid will be expelled and nitrate of lead will be the compound in solution.

If no sediment remains, then only test for lime as follows: Add ammonia in excess, which precipitates the oxide of lead, then decant and add a solution of carbonate of potassa, which precipitates the lime if present. This is dried and weighed, and the amount of carbonate of lime it represents is calculated as follows:

28 : 50 :: weight of precipitate : x

x = weight of chalk.

Or the solution may be treated with oxalate of ammonia, which precipitates the lime as oxalate of lime; this may be converted into a carbonate by ignition and then weighed.

If, on the addition of diluted nitric acid, an insoluble residue is left, then this residue must be tested for the sulphates of baryta, of lead or of lime. Boil the residue with dilute hydrochloric acid; the sulphates of lead and of lime will be dissolved and the baryta left; this may then be dried and weighed. Precipitate the lead by adding ammonia and sulphide of ammonium, the sulphide of lead formed is treated with concentrated nitric acid, which converts it entirely into sulphate, and as such it may be weighed and directly determined. Lastly, the lime may be precipitated by oxalate of ammonia, ignited and converted into carbonate of lime, this is dried and weighed, and the amount of sulphate of lime it represents is calculated as follows;

50 : 68 :: weight of ignited oxalate of lime : x

x = weight of sulphate of lime.

—*Leavenworth Jour. Phar.*, August, 1871.

Varieties.

Sassafras Oil.—The manufacture of sassafras oil has been conducted for the past two years in Richmond, Va., on an extensive scale. The oil manufactured amounts to two per cent. of the stock used, 800 pounds of unrectified oil being made from 40,000 pounds of the root. This quantity is further reduced by rectification and cleansing from sediment and impurity. A gallon of the fine oil weighs 10 pounds, and about 40 gallons are produced every week. The root is first cut up fine by a chopping machine, and the raw materials are placed in a large tub, which is closed, and steam is then forced through the mass. The oil is then distilled by the ordinary process. It is largely used for scenting toilet soap, and for flavoring tobacco.—*Med. and Surg. Rep.*, Aug. 26, 1871.

The Preservation of Pepsin.—Dr. Lionel Beale writes to *Nature* to the effect that the means hitherto adopted for preparing pepsin for medical purposes are

clumsy and inefficient. Dr. Beale, however, claims one exception, a process described by himself in 1858. It simply consists in quickly drying the mucus expressed from the pig's stomach glands upon glass plates. The dried mucus is then powdered, and kept in stoppered bottles. It retains its properties for years. Eight-tenths of a grain will dissolve *one hundred grains* of coagulated white of egg. From this powder is easily prepared, by solution in distilled water, a perfectly clear and colorless digestive fluid of great activity, which can be readily filtered.—*Kans. City Med. Journ.*, Aug. 1871, from *Med. Press and Circular*.

Pill Mass of Ferri Sulph. and Potass. Carb. (see also pages 307 and 373 of this volume).—L. Créteur proposes the following manipulation: 500 sulphate of iron and the same weight of carbonate of potassa are powdered separately, and then intimately mixed; a hot mixture of 100 clarified honey and 20 white wax is now added, the whole beaten to a pasty mass and set aside for 24 hours. To the brown-green soft mass a sufficient quantity of powdered marshmallow is added to form a pilular mass.—*Bull. de la Soc. Roy. de Ph. de Brux.* 1871, Août.

Manufacture of Phosphorus.—Professor Woehler, of Göttingen, proposed a long time ago to decompose phosphates by means of silicic acid and charcoal, but no practical application was made of the suggestion until recently. It is now applied in France on a large scale. The furnace is similar to the form used for the reduction of iron, and is fed at the tunnel head from a hopper with alternate layers of fuel and phosphates mixed with quartz and soda. The addition of soda facilitates operations as it produces a fusible double silicate which can be easily removed as slag. The vapor of phosphorus is driven by the blast through condensers placed near the top of the furnace, and the slag is drawn off at the hearth as in the blast furnace.—*Journ. Applied Chem.*, Sept., 1871.

Nickel Plating.—The process invented by Isaac Adams, of Boston, is pronounced by all experts to be the best. He employs a bath of a perfectly pure double salt of ammonio chloride or ammonio-sulphate of nickel. The presence of even slight traces of alkalies is said to be injurious, as they occasion the deposition of oxide of nickel. From pure salts the layers of metals are deposited with great regularity, and of sufficient thickness to admit of a fine polish. According to Jacobi, the nickel deposit succeeds much better if the anode be made of pure fused nickel, and Remington prefers to suspend pieces of metal in the bath. Nickel plating has now become an industry of great importance in the United States.—*Ibid.*

Artificial India Rubber.—Prof. Sonnenschein has discovered that an elastic mass resembling caoutchouc may be obtained by combining tungstate of soda with certain organic substances. If tungstic acid or tungstate of soda be added to glue, and afterwards muriatic acid, a compound of tungstic acid glue is precipitated, which is so elastic at 85° to 105° F. that it can be drawn out into very thin fibres. On cooling the mass becomes very solid and brittle. It

is proposed to employ this substance in place of the costly albumen for mordanting cotton, especially for aniline colors. The same substance has been used for tanning leather, which it makes as hard as stone. By adding tungstate of soda and muriatic acid to a solution of gelatine, and heating the precipitate, a substance is formed which may be used as a cement or putty.—*Chicago Drug-gists' Price Current*, Aug., 1871, from *Manufacturers' Review*.

Cinchona Plantations.—In a report of Mr. W. G. McIvor, the Superintendent of the Government Cinchona Plantations in British Sikkim, he says that the state of the plantations near Darjeeling is very unsatisfactory. The plants have not the luxuriant foliage of those grown in the south of India, and trees of equal height do not produce an equal amount of bark, the trees being of more slender growth and the bark thinner. The climate is very moist, being rarely free from rain, and seems admirably adapted for the growth of cinchona; but the trees appear to thrive for three years at most, and then to become diseased.—*Pharm. Journ. and Trans., Lond.*, Aug. 12, 1871.

Plants Killed by Frost : Do they Die in Freezing or in Thawing?—That in certain cases plants die in freezing, is shown by Prof. Gæppert, of Breslau, in a very satisfactory way, in an article in a recent number of *Bot. Zeitung*. The flowers of certain Orchids, notably the milk-white blossoms of *Calanthe veratrifolia*, produce indigo; but only upon a chemical reaction, which takes effect upon the death of the parts. When crushed, or the cells in any way destroyed as to vitality, they turn blue immediately. Now, upon exposure to cold, the flowers turn blue at once upon freezing, showing that life then departed. *Phaius grandiflorus* and another species of that genus, are said to show the same thing.—*Amer. Journ. Science and Arts*, Sept., 1871.

Pharmaceutical Colleges and Associations.

THE LECTURE SEASON has arrived, and all the teaching Colleges of Pharmacy will commence with their regular courses of lectures during the month of October. In the Philadelphia College of Pharmacy the opening lecture will be delivered by Professor E. Parrish, on the evening of October 2d.

THE NEW JERSEY PHARMACEUTICAL ASSOCIATION, at their last meeting, held on the 16th of August, at Long Branch, again considered the draft of a pharmaceutical law proposed by them for enactment in New Jersey, and referred it to a Committee, with the direction that they endeavor to obtain its passage at the next session of the Legislature.

THE LOUISVILLE COLLEGE OF PHARMACY, at the annual meeting, held August 8th, elected the following officers: President, C. Lewis Diehl; Vice-Presidents, B. F. Scribner, John Colgan; Recording Secretary, Fred. C. Miller; Corresponding Secretary, Emil Scheffer; Treasurer, S. Fisher Dawes; Curator, J. A.

McAfee. The Board of Trustees afterwards appointed Committees on charter, on progress of pharmacy, on drug market, on pharmacopœia, on unofficial formulas, on pharmaceutic legislation, on finance, on business, on room.

PHARMACY IN PITTSBURG.—Recently several members of the American Pharmaceutical Association, on their way to St. Louis, stopped at Pittsburg, with the view of visiting some of the large manufacturing establishments for which the Iron City is noted. A number of pharmacists and druggists of that city, having been apprised of this intended visit, very kindly took charge of the party—ladies and gentlemen—and showed them many places of interest. In the evening the entertainers and their guests met in a parlor of the Monongahela House for a friendly chat, and after discussing the aims of pharmaceutical societies, and the difficulty surrounding their establishment on a firm and lasting basis, the Pittsburg pharmacists present resolved to renew their endeavors made a year or two ago, to form a *Pharmaceutical Association of Allegheny County*, and for this purpose appointed Mr. McClarran, President *pro temp.*, and Mr. Abell Secretary *pro temp.* Judging from the gentlemen we had the pleasure of meeting, there is ample material of good quality in Pittsburg and its sister cities Allegheny and Birmingham, to form a good society; and when every individual will have learned to surrender an iota of his private interest for the weal of the profession, he will in a short time be amply repaid by the benefits which will accrue to every member of such a society after it has acquired solidity and strength. We bid our West Pennsylvanian friends a hearty *God speed*.

GENERAL AUSTRIAN APOTHECARIES' SOCIETY.—The annual meeting of this body, which was announced for Sept. 4th, was, on account of the election for the Legislature, postponed, and was held in the city of Linz on Sept. 17th, 18th and 19th.

Minutes of the Philadelphia College of Pharmacy.

A stated meeting of the Philadelphia College of Pharmacy was held at the College building September 25th, 1871. Dillwyn Parrish, President, in the chair. 21 members present.

The minutes of the last meeting, as also the minutes of the Board of Trustees, were read and approved.

The Committee on Deceased Members read the following biographical notice of our late member William Taylor:

William Taylor was a native of Lancaster, Pa., who came to Philadelphia about the year 1848, and entered the store of Edward Parrish, where he acquired a knowledge of the business, and graduated in the College in 1851.

He soon after purchased the drug store at the south-east corner of Ninth and Race streets, from which in a few years he removed to a new building at the north-east corner. There he continued to practice pharmacy until the time of his death, although occupying during two terms the office of Coroner of the city of Philadelphia. In his responsible official position, he was esteemed an honest and capable officer.

Acknowledgments of receipt of volumes of the American Journal of Pharmacy were received from the Smithsonian Institution, and Public Library of the City of Boston.

John M. Maisch read the following report from the delegates of this College to the meeting of the American Pharmaceutical Association :

To the College of Pharmacy, Philadelphia.

The delegates to the late meeting of the American Pharmaceutical Association respectfully report that the pharmacists and druggists of St. Louis had made ample preparations for the accommodation and entertainment of the members at this, the first meeting in their flourishing city.

The attendance was large. Seven new organizations were represented, 108 new members elected, and 12 reported as deceased.

Henry B. Brady, of Newcastle-on-Tyne, England, was present, accredited by a letter from the former President of the British Pharmaceutical Conference, and added much to the interest of the meeting by his participation in its proceedings. The number of reports and original papers was very considerable, and the meeting may be said to have been a most interesting and successful one.

The Conference of the delegates from the several Colleges of Pharmacy, which was established for the purpose of discussing the best methods of instruction, standards for graduation, &c., held one meeting and adopted a Constitution for a permanent organization, to meet annually. The proceedings of this organization are only advisory as affecting the several Colleges represented, but are designed to bring about an approach to uniformity in the granting of diplomas, and in the general management of our Schools of Instruction.

We would recommend the appointment of three delegates by the College, to represent it in this Conference.

(Signed)

JOHN M. MAISCH,
W. PROCTER, JR.,
E. PARRISH.

On motion of Caleb H. Needles, the Chair appointed Caleb H. Needles, Wm. C. Bakes, Saml. S. Bunting, Wm. Procter, Jr., and James T. Shinn, a Committee to confer on the subject of the closing of dispensing stores at 9 o'clock in the evening.

The Treasurer having reported the names of J. C. Griffith, Edwd. Donnelly, A. F. W. Neynaber, Wm. Ellis, Edw. Tomlinson and Chas. E. Rubincam in arrears, on motion, their names were directed to be dropped from the roll of members of the College.

Ambrose Smith offered his resignation as Treasurer of the College. On motion, his resignation was accepted.

In accepting the resignation of our late Treasurer, the members of the College direct the entry to be made on the minutes, of their sense of the faithful and zealous services which he has rendered during a term of twenty-one years. During this period there has been entailed on him more than usual labor, incidental to the erection of the new College building. On retiring from the Treasurership they tender to him their thanks for his services.

The following resolution, offered by Samuel F. Troth, was adopted :

Resolved, That a member be appointed, to be called the Recorder, whose duty it shall be to keep a register of members of the College, with date of election, resignation, decease, &c., also age at time of death, and a list of graduates, with the subject of their thesis, a list of donations to the College, and a

statistical statement of receipts and expenditures of each year, together with any other information the Recorder may think worthy of record.

Samuel F. Troth presented to the College a carefully compiled list of its members from the establishment of the College to the present time, giving the dates of their election, resignation and decease. On motion of Wm. J. Jenks, the Committee on Publication were directed to publish the list, under the supervision of S. F. Troth.

A Committee having been appointed by the Chair to offer the name of a suitable member to serve as Treasurer and one as Recorder, reported, after conference, the name of Samuel S. Bunting for Treasurer, and Samuel F. Troth for Recorder. They also suggested the name of Wm. C. Bakes to assist the Recorder.

Prof. Robert Bridges announced the commencement of the Course of Lectures for 1871-72, and extended an invitation to the members to attend the introductory, by Prof. Edwd. Parrish, on October 2d, at 7 P. M.

The Chairman of the Committee on the Sinking Fund made a verbal report of the funds in the hands of the Committee.

The semi-annual election being ordered, Daniel S. Jones and Wm. C. Bakes acting as Tellers reported the election as *Trustees* of Wilson H. Pile, M. D., Wm. J. Jenks, Edward Parrish, A. B. Taylor, Evan T. Ellis, Chas. Shivers, Wm. C. Bakes, and Ambrose Smith—(in place of H. M. Rittenhouse, who declined re-election).

Committee on Deceased Members.—Edward Parrish, Wm. Procter, Jr., Chas. Bullock.

Treasurer.—S. S. Bunting.

Recorder.—Saml. F. Troth, with Wm. C. Bakes to assist him.

Notice was given of the Pharmaceutical Meetings, which commence on the third Tuesday in October.

On motion, the retiring Treasurer, Ambrose Smith, was directed to pay to Saml. S. Bunting, Treasurer elected at this meeting, the amount of funds belonging to the College in his hands.

On motion, then adjourned.

CHARLES BULLOCK, *Secretary.*

Editorial Department.

THE NINETEENTH ANNUAL MEETING OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, lately held in St. Louis, Mo., of the doings of which we give a full account elsewhere, may be regarded as a very successful one. Though we missed the valuable counsel of several active members, who on this occasion were prevented from attending, the number in attendance was about 125, and, including the delegates, about 115 new members joined the Association. The papers read, numbering about fifty, are mostly practical, and we think contain many valuable facts and suggestions.

Aside from the attraction which St. Louis possessed for many of the visiting members, the success is in a great measure due to the exertions of the pharmacists and druggists of St. Louis, who labored assiduously through their Committees on ways and means, on arrangements, on hall, on railroads and hotels, on reception and on banquet.

On the evening of Sept. 12th, the local members and friends of the Association, with their ladies, met the visiting members and ladies in the spacious parlors of the Southern Hotel, where a general introduction took place. After partaking of a handsome collation, the company engaged in friendly conversation, and dispersed at a late hour.

The afternoon of Wednesday, the 13th, was especially devoted to the ladies of the visiting members, who were conducted by several ladies and gentlemen of St. Louis to the most prominent points of interest in the city and suburbs.

The evening of the 14th assembled all the members present, their ladies and many invited guests, again in the parlors of the Southern Hotel, where a band greeted them with choice music. The dining-hall had been handsomely decorated with flags, and the tables to which the company sat down to an excellent supper, were elegantly ornamented. Toasts were offered to "The American Pharmaceutical Association," "Pennsylvania, the Keystone State of the Union," "The State of New York," "The State of Massachusetts," "The State of Maryland," "The State of Ohio," "The State of Illinois and the City of Chicago," "Our Sister Societies," "The Press," which were acknowledged and responded to by Messrs. Maisch, Procter, Wright, Markoe, Moore, Judge, Sargent, H. B. Brady and J. S. Slade. Speeches were made by other gentlemen until the entertainment came to a close.

After the meeting had adjourned on Friday, the visiting members were conducted to the extensive vaults of the American Wine Company, to Lafayette and Tower Grove Parks, and to Shaw's Botanical Gardens. Returning from this excursion, most of the visitors left the same evening for their homes, or joined a party for a visit to the Mammoth Cave.

EXHIBITION AT THE MEETING OF THE ASSOCIATION.—Through the untiring efforts of Mr. Wm. H. Crawford, the Local Secretary for the past year, a large number of drugs, chemicals, &c., had been placed on exhibition, which took place in the spacious lecture-hall of the polytechnic building. The entire arrangement reflects credit on the good taste of the Manager. The exhibitors were quite numerous, most sections of the United States being represented, likewise England and Germany. A noticeable feature was the display of crude drugs, which were in greater number than at previous meetings. We have not space enough to even mention all articles on exhibition, and shall have to content ourselves with recording the character of the articles exhibited by the various firms.

Drugs.—J. L. Lemberger, of Lebanon, Pa. : an interesting collection of wild cherry bark, in pieces and in powder, gathered in each month of the year.

B. O. & G. C. Wilson, of Boston : indigenous herbs and flowers, in an excellent state of preservation, loose and pressed.

McKesson & Robbins, of New York: a large number of roots, indigenous and foreign, many of rare occurrence in our market.

Herring & Co., of London: scammony root, narcotic leaves, &c.

Richardson & Co., of St. Louis: various roots, barks, gums, &c.

Wm. H. Crawford: Mezquite gum and fruit from F. Kelteyer, San Antonio.

Pharmaceutical Preparations.—Fluid extracts, extracts, resins, tinctures, syrups, pills coated with sugar and gelatine, &c., were exhibited by Henry Thayer & Co., of Cambridge Mass.; Theod. Metcalf & Co., of Boston; Tilden & Co., of New Lebanon, N. Y.; McKesson & Robbins, of New York; Hance Bros. & White, of Philadelphia; Burrough & Bro., of Baltimore; W. J. M. Gordon, of Cincinnati; Enno-Sander, Wm. H. Crawford, Meyer Bro. & Co., and Richardson & Co., of St. Louis; Herring & Co., of London.

Bullock and Crenshaw, of Philadelphia, exhibited a variety of sugar-coated pills; also J. R. Mercein, of Jersey City, samples of pills which were sugar-coated extemporaneously.

The exhibition of fine volatile oils, of their own manufacture, by C. W. Jones, of Centerville, Mich., E. Sachse & Co., and Heine & Co., of Leipsic, and some others, was particularly noteworthy.

Handsome specimens of castor oil and other fatty oils were exhibited by Wolman & Co., H. H. Gillum, and the St. Louis Oil and Lead Company.

Chemicals were numerous and well displayed by Powers & Weightman, and Rosengarten & Sons, of Philadelphia; Chas. T. White & Co., and Schering & Glatz, of New York; G. Mallinckrodt & Co., of St. Louis; F. C. Calvert & Co., Manchester. Handsome chemicals were also found among the collections of Th. Metcalf & Co., Wm. H. Crawford, Enno Sander, and several others.

Perfumery and Toilet Articles were specially displayed by Dimmitt, Hale & Co., of St. Louis, and were also found on the tables of several other exhibitors.

Chemical Apparatus.—Fine collections exhibited by Theod. Kalb, and by Greiner & Hecker, of St. Louis.

Soda Water Apparatus, by Chas. Lippincott, of Philadelphia; A. Van Winkle (model), and John Matthews, of New York.

Shop Furniture, Glass Labels, &c.—A fine display by Campion Bros. & Franklin, of Philadelphia; creditably executed glass signs and labels by F. Weissberger, of St. Louis.

Surgical Instruments, Trusses, Syringes, &c.—Codman & Shurtleff, of Boston; A. M. Leslie & Co., of St. Louis; Penfield & Co., of Philadelphia; P. Balbe & Bro., of St. Louis.

LOCAL SOCIETIES.—The influence of the national upon local pharmaceutical associations is very well illustrated by reference to the list of such societies represented at the annual meetings; not less than seven, instituted during the last year, had appointed delegates. The fostering of these local institutions is one of the happiest results of the migrations of the national association, and it seems to us that an ample, almost neglected field, which, however, promises an abundant harvest, will be found in nearly all the localities which were pro-

posed in St. Louis for holding the next annual meeting. From the shores of the Atlantic, where pharmaceutical colleges are in successful operation in the principal cities, and where State associations have been formed in at least two States, to those enterprising prairie cities, Chicago and St. Louis, there is a vast country, stretching a thousand miles from east to west, with a fertile soil and with thriving factories, with cities of fifty and even over a hundred thousand inhabitants. In that large territory, from the great lakes in the north, south to the Ohio River, there is hardly a single college of pharmacy or pharmaceutical society that has acquired sufficient solidity and shows a healthy vitality. It is likely, however, that the influence of the twentieth meeting of the national association will be felt north and west of the Allegheny Mountains in forming new local societies and infusing new light and vigor into those which may have existed before. "In Union there is strength."

GALANGAL.—As an addition to Mr. Hanbury's interesting historical notes on galangal published in the present number, we take occasion to state that this root is little known in American pharmacy, and perhaps never employed here in the regular practice of physicians. It is, however, frequently sold in various parts of the country by pedlers and travelling "medicine men," either as a cure-all, or by those, perhaps, less imbued with the spirit of charlatany, under the less pretentious claim of a "sure cure" for dyspepsia, diarrhoea, headache or tooth-ache. During the last five or six years, we have repeatedly received samples from various parts of the country where it had been sold under the names of China, Indian and East India root, and probably under other names. Under the latter name it was lately offered in the streets in close proximity to several of our best Philadelphia wholesale drug houses, and sold at the rate of about 25 cents per oz., a moderate charge as compared with that exacted in some western localities, where 50 cents per oz. has been paid for it. This is at the rate of \$8 per pound, but the percentage of profit is sufficient to insure, with a tolerably extensive sale, a handsome income, and we question whether the celebrated cundurango, at \$100 per pound, affords the same percentage on the net cost.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Practical Therapeutics; considered chiefly with reference to articles of the *Materia Medica*. By Edward John Waring, M. D., F. L. S., &c. Second American, from the third London edition. Philadelphia: Lindsay & Blakiston, 1871. 8vo, 765 pages. Price, bound in cloth, \$5; in leather, \$6.

The author is well known to the medical profession, and his work, in its former edition, has been favorably received. The plan upon which the voluminous material has been arranged is exceedingly simple, and, for that reason, extremely useful to the busy practitioner. The work commences with an introduction, mainly devoted to the art of prescribing medicines, which is briefly considered in all its bearings. Part first, which follows, treats of "Articles of the Mate-

ria Medica," conveniently arranged in alphabetical order, with full descriptions of the medical properties and action, and the therapeutic uses of each drug. Part second speaks of "Medicinal Agents and Classes of Medicines," and is likewise arranged in alphabetical order. The book closes with an alphabetical index of diseases.

Every page of this manual gives evidence of the author's industry, his critical observation, and his familiarity with the current medical literature, the important facts of which are condensed so as to be at once available to the physician, who will be particularly pleased with the full accounts given of most of the new and even some of the rarest therapeutical agents, as, for instance, apomorphia, chloral, carbolic acid, cryptopia, peroxide of hydrogen, iodide of methyl, &c. If we have a suggestion to make, it is this, that an account of some of the American articles of *Materia Medica* would be welcome to the American practitioner, the most important ones of which have, however, received their full share of attention.

The medical student as well as the physician will find it a very useful work.

Headaches; their Causes and their Cure. By Henry G. Wright, M. D., M. R. C. S. L., L. S. A., &c. From the fourth London edition. Philadelphia: Lindsay & Blakiston, 1871. 12mo, 154 pages. Price, in cloth, \$1.25.

This little volume aims at imparting correct views of the varieties, symptoms, causes and treatment of headaches; and, while the practitioner will find in it many useful hints, suggestions and facts, every intelligent reader will derive special benefit from the perusal of its pages, inviting him to reflect on the causes of the headache which occasionally troubles him, and pointing out their avoidance. We consider this work of special value to the pharmacist, who is so frequently applied to to relieve headache; it will convince him, if he did not know it already, that headache is merely a symptom and not a disease, which, to be permanently relieved, requires often the careful observations of the physician. Pil. cathart. comp. and liq. magnes. citrat., though relieving some headaches, are not specifics for headache.

Report of the Executive Committees of the Apothecaries' Union of New York City and Suburbs, in relation to the Drug Law and the Legal Regulation of Pharmacy, &c. New York: "Journal of Applied Chemistry" Print, 1871.

We acknowledge the receipt of this report, which contains also an address by Dr. Fr. Hoffmann, giving a historical sketch of the efforts made by American pharmacists to obtain suitable legislation, and showing the absurdities and inconsistencies of the New York law. A draft of a proposed act is added, which is based upon the Rhode Island law, but has some other features which we may, perhaps, allude to hereafter.

Ueber die Wirkungen der Wasserluftpumpe, deren Anwendung beim Abdampfen, Kochen, Destilliren und Filtriren im Vacuum, sowie beim Trocknen von Kräutern und Krystallen. Von F. A. Wolff & Söhne, in Heilbronn.

On the effects of the water air-pump; its uses in evaporation, boiling, distilling

and filtering *in vacuo*; also for the drying of herbs and crystals. Reprint from Neues Jahrbuch der Pharmacie. 8vo, 20 pages.

The water air-pump of the authors differs in construction materially from the one described on page 401 of this journal. In a future number we shall endeavor to give the prominent points of the pamphlet before us.

The Physician's Prescription-Book; containing lists of the terms, phrases, contractions, and abbreviations, used in prescriptions, with explanatory notes; the grammatical construction of prescriptions; rules for the pronunciation of pharmaceutical terms; a prosodiocal vocabulary of the names of drugs, &c.; and a series of abbreviated prescriptions illustrating the use of the preceding terms; to which is added a key, containing the prescriptions in an unabbreviated form, with a literal translation, for the use of medical and pharmaceutical students. By Jonathan Pereira, M.D., F.R.S. Fifteenth edition. Philadelphia: Lindsay & Blakiston, 1871. 16mo, 286 pages. Price, in cloth, \$1.25; in leather, with tucks and pocket, \$1.50.

This little work of the celebrated author is too well known, and its usefulness being proven by the numerous editions through which it has passed in England and in this country, we merely call attention to the present handsome edition.

Transactions of the Minnesota State Medical Society. St. Paul Pioneer Printing Company, 1871. 8vo, 63 pages.

The receipt of this pamphlet is acknowledged.

The Canadian Journal of Pharmacy. Toronto, Ontario.

This monthly, of which Mr. E. B. Shuttleworth is the able and zealous editor, comes to us in an entirely new dress, and is thereby much improved in appearance.

OBITUARY.

PROF. ROBERT BENTLEY.—During the late meeting of the American Pharmaceutical Association in St. Louis, a cable dispatch announced the death of this zealous laborer in the cause of science. The intelligence cast a gloom over the members who knew him by reputation or personally, and the sad event was feelingly alluded to by Mr. Henry B. Brady, a personal friend of the deceased. In the next number we shall lay before the readers a biographical sketch of the deceased.

WILHELM RITTER VON HAIDINGER, a celebrated mineralogist and geologist, died in March last, at Vienna, Austria.